Notice of Allowability	Application No.	Applicant(s)	
	09/842,481	LARSON ET AL.	
	Examiner	Art Unit	
	David Lazaro	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the application filed 04/25/01*.

2. ☒ The allowed claim(s) is/are *1, 3-6, 8-10, 12, 16 and 17*.

3. ☒ The drawings filed on *25 April 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 06/23/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *11192004* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER

David Lazaro
November 22, 2004

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Brownstone (46,581) on 11/19/04.

The application has been amended as follows:

In the claims:

Please amend Claim 1 as follows:

1. (Currently amended) A method for sending data from a source across a network, comprising: associating sequence information with ~~the~~ first data, the sequence information further comprising a sequence number and an expected sequence number, wherein the expected sequence number corresponds to a sequence number of data sent immediately prior to the first data; sending the first data and associated sequence information to a remote location; receiving the ~~sent~~ first data and associated sequence information at the remote location; and accepting the first data if its associated expected sequence number matches a sequence number associated with second data already accepted by the remote location, the second data sent by the source immediately prior to the sending of the first data. ~~determining, based on the associated sequence information, whether the received sent data should be accepted.~~

Please cancel Claim 2.

Please amend Claim 3 as follows:

3. (Currently amended) The method of claim 1, ~~wherein the step of determining, based on the associated sequence information, whether the received send data should be accepted further comprises~~ further comprising: rejecting the received ~~sent~~ first data if ~~the~~ its expected sequence number ~~associated with the received sent data~~ does not match [[a]] the sequence number associated with the second data. ~~previously received at the remote location.~~

Please amend Claim 6 as follows:

6. (Currently amended) A method for transmitting data from a source across a network, comprising: associating a sequence number with ~~the~~ first data; associating an expected sequence number with the first data, the expected sequence number related to a sequence number of a second data, the second data transmitted most recently across the network by the source; ~~previously transmitted across the network; and~~ transmitting the first data, associated sequence number and expected sequence number across the network; receiving a response indicating whether the first data was successfully received by a remote receiver, wherein the first data was successfully received if the expected sequence number matches the sequence number of a data packet last received from the source; and responsive to an indication that the first data was not successfully received, resending the first data.

Please cancel Claim 7.

Please amend Claim 8 as follows:

8. (Currently amended) A method for receiving data sent across a network from a source, comprising: receiving a first data packet from the source, the first data packet ~~comprising~~ including first data, a first sequence number, [[an]]and a first expected sequence number~~, and a node ID~~; receiving a second data packet from the source, the second data packet including second data, a second sequence number, and a second expected sequence number, the second expected sequence number corresponding to a sequence number of a data packet sent by the source immediately prior to the second data packet; determining whether the second expected sequence number corresponds to the first sequence number; ~~determining whether a second data packet has already been received, wherein the second data packet has a sequence number corresponding to the expected sequence number of the first data packet; and~~ responsive to a determination that the second expected sequence number corresponds to the first sequence number ~~data packet has already been received~~: storing the data of the ~~first~~ second data packet.

Please amend Claim 9 as follows:

9. (Currently amended) The method of claim 8, further comprising sending an acknowledgement indicating that the ~~first~~ second data packet has been stored.

Please amend Claim 10 as follows:

10. (Currently Amended) The method of Claim 8, further comprising: responsive to a determination that the second expected sequence number does not correspond to the first sequence number ~~second data packet has not been received~~: sending a retry request indicating that the ~~first~~ second data packet was not accepted.

Please cancel Claim 11.

Please amend Claim 12 as follows:

12. (Currently amended) A method for writing first data received from a source over a network to a device on a bus, the method comprising: determining sequence information associated with the first data, further comprising: determining a sequence number associated with the first data; determining an expected sequence number associated with the first data, wherein the expected sequence number corresponds to a sequence number of data transmitted by the source to the device immediately prior to the transmission of the first data; determining whether the expected sequence number corresponds to a sequence number of second data last received from the source prior to receiving the first data ~~previously received~~; responsive to the expected sequence number corresponding to the sequence number of the second data: writing the first data to the bus; sending an acknowledgement message; and responsive to the expected sequence number not corresponding to the sequence number of the second data: sending a retry request message.

Please cancel claims 13-15.

Please amend Claim 16 as follows:

16. (Currently amended) A system for transferring a data packet across a network, the data packet comprising data, a sequence number and an expected sequence number, the system comprising: a sending module, for sending the data packet across the network and further comprising: a bus communication module, for receiving the data from a bus; a sequencing module, for assigning the sequence number and the expected sequence number to the data packet, wherein the expected sequence number corresponds to a sequence number of data most recently transmitted by the sending module to a same destination; a data transmission module, for transferring the data packet to a receiving module across the network; the receiving module, coupled to the network, for receiving the data packet, and further comprising: a sequence table module, for determining whether the data packet has been received in a correct order, wherein the data packet is received in the correct order if the expected sequence number matches the sequence number of a data packet last received from a same source, and wherein a retry request is sent if the data packet is not in the correct order; a data buffer for storing the data; and an acknowledgement module, for sending an acknowledgement to the sending module when the data packet is received in the correct order.

2. The following is an examiner's statement of reasons for allowance:

3. The primary reason for allowance is the inclusion of the limitations involving the "sequence number" and the "expected sequence number" of a data packet and how the relationship of these two sequence numbers can be used to determine if the data packet is received properly in a method and system for sending and receiving data across a network from a source to a destination, such as a device on a bus. Specifically, the claimed subject matter not found in prior art is the use of an "expected sequence number" in addition to a "sequence number" by a source, where a current data's "expected sequence number" is a "sequence number" of a data sent immediately prior to the current data, and the accepting of data on the receiving end when the current "expected sequence number" corresponds to the "sequence number" of a data last received from the same source.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. U.S. Patent 5,432,798 by Blair "Data communication method and system" July 11, 1995. Discloses general state of the art involving the use of sequence numbers with data being transmitted over the network. See Col. 1 lines 45-62 and Col. 8 lines 20-32.

6. U.S. Patent 5,754,754 by Dudley et al. "Transmission order based selective repeat data transmission error recovery system and method." May 19, 1998. Discloses general state of the art involving the use of sequence numbers for retransmission purposes. See Background of the Invention.

7. U.S. Patent 6,163,861 by Yoshioka et al. "Error compensating method and apparatus and medium storing an error compensation program" December 19, 2000. Discloses general state of the art involving the use of sequence numbers with data being transmitted over the network, particularly the comparison of a received sequence number to a value next expected. See Background of the Invention and Col. 13 - Col.15.

8. U.S. Patent 6,742,044 by Aviani et al. "Distributed Network Traffic Load Balancing Technique Implemented Without Gateway Router" May 25, 2004. Discloses general state of the art involving the use of sequence numbers with data being transmitted over the network in relation to the TCP protocol. See Col. 5 line 55 - Col. 6 line 39.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lazaro
November 22, 2004

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SUPERVISORY PATENT EXAMINER